
Nomenclatural Alterations in Microlicieae (Melastomataceae)

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ABSTRACT. With the recent taxonomic review of *Chaetostoma* DC., it was found that six species did not present the set of diagnostic features established to delimit the genus. *Chaetostoma* is characterized by sessile, keeled to subkeeled, overlapping, acute leaves and a trichome crown on the external apex of the length of the hypanthium. Three species of *Chaetostoma* are transferred to *Microlicia* D. Don: *M. acuminata* Naudin (*C. acuminatum* (Naudin) Cogniaux), *M. castrata* Naudin (*C. castratum* (Naudin) Cogniaux), and *M. oxyanthera* Naudin (*C. oxyantherum* (Naudin) Triana). Two new names are also proposed: *M. baumgratziana* A. B. Martins & Koschnitzke (*C. gardneri* Triana) and *M. semiriana* Koschnitzke & A. B. Martins (*C. luetzelburgii* Markgraf). The new combination *M. parvula* (Markgraf) Koschnitzke & A. B. Martins (*C. parvulum* Markgraf) is provided. The name *M. oxyanthera* Naudin is lectotypified herein.

RESUMO. A recente revisão taxonômica de *Chaetostoma* DC. revelou que seis espécies não exibem as características diagnósticas estabelecidas para delimitar o gênero. *Chaetostoma* é caracterizado por apresentar folhas sésseis, carenadas a subcarenadas, imbricadas, pungentes, e coroa de tricomas no ápice externo do hipanto. Três espécies de *Chaetostoma* estão sendo transferidas para *Microlicia* D. Don: *M. acuminata* Naudin (*C. acuminatum* (Naudin) Cogniaux), *M. castrata* Naudin (*C. castratum* (Naudin) Cogniaux), e *M. oxyanthera* Naudin (*C. oxyantherum* (Naudin) Triana). Dois novos nomes estão também sendo propostos: *M. baumgratziana* A. B. Martins & Koschnitzke (*C. gardneri* Triana) e *M. semiriana* Koschnitzke & A. B. Martins (*C. luetzelburgii* Markgraf). A nova combinação *M. parvula* (Markgraf) Koschnitzke & A. B. Martins (*C. parvulum* Markgraf) é fornecida. O nome *M. oxyanthera* Naudin é aqui lectotipificado.

Key words: Brazil, *Chaetostoma*, Melastomataceae, *Microlicia*.

The tribe Microlicieae, belonging to the Melastomataceae, is comprised of genera whose species are largely restricted to the cerrado and campos rupestres vegetation of the southeastern and central-western regions in the Brazilian states of Minas Gerais, Goiás, and the Federal District, with several species also occurring in the northeastern plateau, especially in Bahia, at higher elevations, where the caatinga (a spiny deciduous forest formation characterized by a long dry season) gives way to the campos rupestres.

Traditionally comprised of 15 or 11 genera attributed by Cogniaux (1883, 1891) and later by Renner (1993), Microlicieae has recently been reevaluated by Almeda and Martins (2001) and Fritsch et al. (2004). Using morphological and molecular characters, these studies have proposed a more restrictive circumscription of the tribe to include only a clade comprising six genera: *Chaetostoma* DC., *Lavoisiera* DC., *Microlicia* D. Don, *Rhynchanthera* DC., *Stenodon* Naudin, and *Trembleya* DC.

Chaetostoma is endemic to Brazil, where it occurs mostly above 800 meters. All species in the genus are subshrubs that thrive on sandy soils or in rocky habitats. In a recent taxonomic review (Koschnitzke & Martins, 2006), *Chaetostoma* was defined by the following diagnostic characters: sessile, keeled to subkeeled, overlapping, acute leaves without glandular punctations; a trichome crown on the external apex of the hypanthium that remains intact after dehiscence; and a mature capsule exceeding the length of the hypanthium. In contrast, *Microlicia*, the genus with which *Chaetostoma* has sometimes been confused, generally has glandular-punctate leaves that are frequently flat and not keeled, hypanthia lacking the trichome crown at the apex, and a capsule that expands in width as it matures, thereby elevating the length of the hypanthium around the ovary.

Chaetostoma and *Microlicia* have long been considered to be closely related because they share typically 5-merous flowers, 3-locular ovaries, and reniform seeds. The traditional distinctions between

these two genera have been size dimorphism, not extending to shape, among stamens within a flower (dimorphic vs. isomorphic or nearly isomorphic stamens). *Chaetostoma* has two series of equal or subequal stamens, whereas *Microlicia* has the two series of stamens differing markedly from one another (Cogniaux, 1883).

In reviewing *Chaetostoma* (Koschnitzke & Martins, 2006), it was found that six species that do not bear the trichome crown on the hypanthium are better accommodated in the genus *Microlicia*.

For this reason, we here transfer three species of *Chaetostoma* to *Microlicia*. We also reinstate three species in *Microlicia*, the genus to which they had been attributed originally.

NAMES RECOGNIZED IN *MICROLICIA*

1. *Microlicia acuminata* Naudin, Ann. Sci. Nat., Bot., Sér. 3, 3: 179. 1845. *Chaetostoma acuminatum* (Naudin) Cogniaux, in Martius, Fl. Bras. 14(3): 35. 1883. TYPE: Brazil. Goiás: s. loc., s.d., G. Gardner 3730 (holotype, G).

Chaetostoma acuminatum var. *ramosissima* Cogniaux, in Martius, Fl. Bras. 14(3): 35. 1883. Syn. nov. TYPE: Brazil. São Paulo: "Araracoara," May 1834, L. Riedel 2211 (holotype, LE not seen; isotypes, BR, C, F, K, M, P not seen, P photo at UEC, W).

This species was initially described as *Microlicia acuminata* by Naudin (1845). Triana (1871) transferred *M. oxyanthera* Naudin to the genus *Chaetostoma* with no comments on the reason for such change. Simultaneously, this author synonymized in *C. oxyantherum* (Naudin) Triana two other species of *Microlicia* (*M. castrata* Naudin and *M. acuminata* Naudin). Cogniaux (1883) accepted this transfer to the genus *Chaetostoma* made by Triana. However, he considered the synonymized taxa as distinct species, thereby following the initial circumscription proposed by Naudin (1845): *C. acuminatum*, *C. castratum* (Naudin) Cogniaux, and *C. oxyantherum*. We confirm Naudin's recognition as above. Analyzing the available nomenclatural types, we concluded that *C. acuminatum* var. *ramosissima* is not sufficiently distinct to be accepted as a different taxon.

Microlicia acuminata has flat, oval leaves, does not bear a trichome crown on the external apex of the hypanthium, and displays several glandular punctations on the leaves, hypanthium, and calyx lobes, features commonly found in *Microlicia*.

2. *Microlicia castrata* Naudin, Ann. Sci. Nat., Bot., Sér. 3, 12: 230. 1849. *Chaetostoma castratum* (Naudin) Cogniaux, in Martius, Fl. Bras. 14(3): 36.

1883. TYPE: Brazil. Goiás: "entre Natividade e Conceição," Feb. 1840, G. Gardner 3732 (holotype, P not seen; isotypes, BM, BR, F, G, K, P not seen, P photo at S, SP, UEC, W).

As in the previous case, the species was initially described as *Microlicia castrata* and later synonymized in *Chaetostoma oxyantherum* (Triana, 1871). *Microlicia castrata* has polysporangiate anthers and differs significantly from *M. acuminata*, which has, like the majority of angiosperms and presumably most Melastomataceae (Almeda & Martins, 2001), tetrasporangiate anthers.

This species also has flat, oval leaves, lacks a trichome crown on the hypanthium, and displays several glandular punctations, thereby justifying its exclusion from *Chaetostoma* and reinstatement in the *Microlicia*.

3. *Microlicia oxyanthera* Naudin, Ann. Sci. Nat., Bot., Sér. 3, 12: 230–231. 1849. *Chaetostoma oxyantherum* (Naudin) Triana, Trans. Linn. Soc. 28: 25. 1871. TYPE: Brazil. Goiás: Salinas, 3 May 1844, H. A. Weddell 2166 (lectotype, designated here, P not seen, P photo at UEC; duplicate, F [fragment]).

Microlicia oxyanthera var. *albiflora* Naudin, Ann. Sci. Nat., Bot., Sér. 3, 12: 231. 1849. Syn. nov. TYPE: Brazil: s. loc., s.d., H. A. Weddell 2605 (holotype, P not seen).

When Triana (1871) transferred *Microlicia acuminata*, *M. castrata*, and *M. oxyanthera* to the genus *Chaetostoma*, recognizing them under the same taxon (*C. oxyantherum*), he used the *oxyantherum* epithet instead of *acuminatum*, which, being older, would have had priority. Cogniaux (1883), while agreeing with Naudin (1849), considered these species distinct, but kept them in *Chaetostoma* as did Triana (1871).

Microlicia oxyanthera and *M. castrata* are similar in that they lack glandular punctations on the hypanthium, but share the aristate calyx lobe apex by the extension of the median nerve. In addition, *M. castrata* and *M. oxyanthera* share polysporangiate anthers, a feature observed by Baumgratz et al. (1996) for *Chaetostoma luetzelburgii* Markgraf and *C. parvulum* Markgraf, which are also transferred to *Microlicia* in this paper. Therefore, in transferring those species to *Microlicia*, all species so far accepted in *Chaetostoma* present tetrasporangiate anthers.

NEW NAMES AND COMBINATION IN *MICROLICIA*

1. *Microlicia baumgratziana* A. B. Martins & Koschnitzke, nom. nov. Replaced name: *Chaeto-*

stoma gardneri Triana, Trans. Linn. Soc. 28: 25. 1871, non *Microlicia gardneri* Naudin, Ann. Sci. Nat., Bot., Sér. 3, 12: 240. 1849. TYPE: Brazil. Piauí: 1839, *G. Gardner 2853* (holotype, BM; isotypes, BR, F, G, P not seen, P photo at F, W).

This species has flat, lanceolate, subulate, nonacute leaves with slightly revolute margins, and glandular punctations. The hypanthium does not have the trichome crown on the external apex, which particularly excludes it from *Chaetostoma*.

Only the type collections of *Chaetostoma gardneri* were available for study, and to our knowledge, no other material is known. In a partial survey of the species of *Microlicia* known from the states of Piauí and Pernambuco, no other specimens display the diagnostic features of this species.

The new name, *Microlicia baumgratziana*, is provided because the basionym is already occupied by *M. gardneri* Naudin, a synonym of *M. vestita* DC. (de Candolle, 1828). The epithet pays homage to José Fernando Baumgratz, a researcher from the Botanical Garden of Rio de Janeiro, who has dedicated himself to the study of the Melastomataceae.

2. *Microlicia parvula* (Markgraf) Koschnitzke & A. B. Martins, comb. nov. Basionym: *Chaetostoma parvulum* Markgraf, Notizbl. Bot. Gart. Berlin-Dahlem 10(91): 44. 1927. TYPE: Brazil. Bahia: Rio de Contas, July 1913, *P. Luetzelburg 273* (holotype, M).

Glaziou (1908: 242–243) mentioned the name *Microlicia parvula* for a species collected in the state of Goiás without supplying a description or diagnosis, thereby creating a nomen nudum.

Markgraf (1927) mentioned in his description of *Chaetostoma parvulum* that it seemed more like a species of *Chaetostoma* with the appearance of *Microlicia*. This species is very similar to *M. semiriana* in that both lack the trichome crown on the hypanthium, the leaves are flat and ovate, and the flowers are yellow. The entire plant is glandular-punctate and glutinous.

Representative specimens examined. BRAZIL. **Bahia:** Água de Rega, Serra de Água de Rega, *Irwin et al. 30957* (BR, C, F); Água Quente, Pico das Almas, vertente oeste, trilha do povoado da Santa Rosa, 23 km ao O das cidade, *Harley 27061 & Taylor* (UEC, US); Piatã, próximo à Serra do Gentio, entre Piatã e Serra da Tromba, *Lewis et al. 7364* (SPF, US); Rio de Contas, Pico das Almas, vertente leste, subida do Pico do Campo do Queiroz, *Harley 26425* (UEC).

3. *Microlicia semiriana* Koschnitzke & A. B. Martins, nom. nov. Replaced name: *Chaetostoma luetzelburgii* Markgraf, Notizbl. Bot. Gart. Berlin-Dahlem 10(91): 43. 1927, non *Microlicia luet-*

zelburgii Markgraf, Notizbl. Bot. Gart. Berlin-Dahlem 10(91): 45. 1927. TYPE: Brazil. Bahia: Morro do Carrasco, s. loc., s.d., *P. Luetzelburg 263* (holotype, M).

The name *Microlicia luetzelburgii* was previously used by Markgraf (1927) to describe another species occurring in the Brazilian state of Piauí. Therefore, the epithet was changed to *semiriana*, as a tribute to João Semir, a researcher in the area of taxonomy at the State University of Campinas and a Brazilian specialist in the Melastomataceae.

Markgraf (1927) noted that *Chaetostoma luetzelburgii* is similar to other *Microlicia* species, yet he placed it in *Chaetostoma* because the stamens of the two cycles are almost identical in size and shape. Actually, the antesealous and antepetalous stamens of this species are more similar to one another than in any other *Chaetostoma* species. However, when considering other features such as the nonacute, glutinous leaves, the absence of the trichome crown at the hypanthium apex, and the mature fruits not exceeding the length of the hypanthium, this species is better placed in *Microlicia*.

Representative specimens examined. BRAZIL. **Bahia:** Mucugê, betw. 10–15 km N of Mucugê on rd. to Andaraí, *Harley 18863* (CEPEC, SPF, UEC); Piatã, estrada entre Piatã e Abaíra, a 3 km ao S de Piatã, *Mori & Funch 13389* (CEPEC, US); Rio de Contas, 10 km N of town of Rio de Contas on rd. to Mato Grosso, *Harley 15270* (MO); Pico das Almas, vertente leste, subida do Pico do Campo do Queiroz, *Harley et al. 26177* (US).

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